We claim:

1. A process for estimating the position of a coil relative to an associated magnetic structure, the method comprising:

coupling a reference impedance in series with the coil;

applying to the coil and the reference impedance an alternating current signal;

measuring a resulting voltage across the reference impedance or the coil;

estimating a value of an impedance of the coil via a circuit model; and

utilizing the estimated impedance value to derive an estimate of coil position relative to the associated magnetic structure.

2. The process of Claim 1, wherein coupling a reference impedance in series with the coil comprises coupling a reference coil, a reference resistor, or both, in series with the coil.

3. The process of Claim 1, wherein applying to the coil and the reference impedance an alternating current signal comprises applying an alternating current signal having a constant amplitude.

4. The process of Claim 1, wherein applying to the coil and the reference impedance an alternating current signal comprises applying an alternating current signal having a constant frequency.

5. In an audio reproduction system including an audio transducer with a voice coil, a process for estimating a position of the voice coil relative to another element of the audio transducer, the process comprising:

coupling a reference impedance in series with the

voice coil;

applying to the voice coil and the reference impedance an alternating current signal;

measuring a voltage across the reference impedance or the voice coil;

estimating a value of an impedance of the voice coil using a circuit model; and

utilizing the estimated impedance value to derive an estimate of coil position relative to the other transducer element.

6. The process according to Claim 5, wherein the audio reproduction system has a range of operating frequencies, and further wherein applying to the voice coil and the reference impedance an alternating current signal comprises applying an alternating current signal having a frequency outside of this range.

7. The process according to Claim 5, wherein measuring a voltage across the reference impedance or the voice coil comprises coupling a filter circuit to a junction of the voice coil and the reference impedance.

8. The process according to Claim 5, wherein measuring a voltage across the reference impedance or the voice coil comprises:

coupling a filter circuit to a junction of the coil and the reference impedance; and

coupling a detector to an output of the filter circuit.

9. The process according to Claim 8, wherein the filter attenuates frequencies in the range of the transducer operating frequencies.

10. The process of Claim 6, wherein applying an alternating current signal having a frequency outside the range comprises:

applying an alternating current signal having a frequency greater than an upper-most frequency of the range.

11. The process according to Claim 8, further comprising:

coupling a filter circuit to an output of the detector.

12. The process according to Claim 8, wherein the detector is a bridge detector.

13. A process for determining an impedance of a coil having a variable impedance, the process comprising:

coupling an impedance in series with the coil;

applying to the coil and the impedance an alternating current signal; and

measuring a voltage across the impedance.

14. The process of Claim 13, wherein coupling an impedance in series with the coil comprises coupling another coil in series with the coil.

15. The process of Claim 13, wherein coupling an impedance in series with the coil comprises coupling a resistor in series with the coil.

16. The process according to Claim 13, wherein coupling an impedance in series with the coil comprises coupling in series with the coil a resistor and another coil.

17. The process of Claim 13, wherein applying to the coil an alternating current signal comprises applying an alternating current signal having a constant amplitude.

18. The process of Claim 13, wherein applying to the coil an alternating current signal comprises applying an alternating current signal having a constant frequency.

19. In an audio reproduction system including a sound transducer having a voice coil, a process for determining a position at the voice coil, the process comprising:

coupling an impedance in series with the voice coil;

applying to the voice coil and the impedance an alternating current signal; and

measuring a voltage across the impedance or the voice coil.

20. The process according to Claim 19, wherein the audio reproduction system has a range of operating frequencies, and further wherein applying to the voice coil and the impedance an alternating current signal comprises applying an alternating current signal having a frequency outside of the range.

21. The process according to Claim 19, wherein measuring a voltage across the impedance or the voice coil comprises coupling a filter circuit to a junction of the coil and the impedance.

22. The process according to Claim 13, wherein measuring a voltage across the impedance comprises coupling a detector to the coil or the impedance.

23. The process according to Claim 19, wherein measuring a voltage across the impedance or the voice coil comprises:

coupling a filter circuit to a junction of the coil and the impedance; and

coupling a detector to an output of the filter circuit.

24. The process according to Claim 23, wherein the filter attenuates frequencies in the range of the operating frequencies.

25. The process of Claim 20, wherein applying an alternating current signal having a frequency outside the range comprises:

applying an alternating current signal having a frequency greater than an upper-most frequency of the range.

26. The process according to Claim 23, further comprising:

coupling a filter circuit to an output of the detector.

27. The process according to Claim 22, wherein coupling a detector to a junction of the coil and the impedance comprises coupling a bridge detector to a junction of the coil and the impedance.

28. In an audio reproduction system including an audio transducer with a voice coil, a process for estimating a position of the voice coil relative to another element of the audio transducer, the process comprising:

estimating a value of an impedance of the voice coil; and

utilizing the estimated impedance value to derive an estimate of coil position relative to the another transducer element.

29. The process according to Claim 28, wherein estimating a value of an impedance of the voice coil comprises estimating a value of impedance of the voice coil using a circuit model.

30. The process according to Claim 28, wherein the process further comprises applying to the voice coil an alternating current signal.

31. The process according to Claim 30, wherein the audio reproduction system has a range of operating frequencies, and further wherein applying to the voice coil and the reference impedance an alternating current signal comprises applying an alternating current signal having a frequency outside of this range.